

REMARKS/ARGUMENTS

Allowable Subject Matter

The indication of the allowability of the subject matter of claims 22-30, 42-50, 55 and 56 is acknowledged with appreciation.

Claim Rejections under 35 USC § 102

1. The Examiner rejected claims 17-21, 31-34, 37-41, 51 and 53 as being anticipated by Tallmann (US 4,663,511). More specifically, the Examiner indicated that Tallman discloses an arrangement for monitoring welding including, among other things, a UV illuminating means and a bandpass filter. Applicants respectfully traverse the rejection.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). “The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required.” *MPEP* § 2131 citing *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

In the instant case, Applicant respectfully submits that Tallman does not disclose each and every element, of independent claims 17 and 37, as arranged, to maintain a rejection under 35 USC §102.

Claim 17 recites “a device (2) for monitoring a welding area of an object (14) in connection with welding, said device comprising: means for reproducing (3) the welding area; at least one filter (4) arranged in front of or in the reproduction means (3); means for illuminating (5) the welding area with ultraviolet radiation of a predetermined ultraviolet wavelength; and said filter (4) comprising a band-pass filter configured for filtering around the predetermined ultraviolet wavelength range; (Emphasis added)

Initially, it should be appreciated that Applicant’s recited means for illumination is separate and distinct from a welding implement itself. That is, claim 17 recites 1.) means for illumination so as to illuminate the welding area for reproduction and 2.) a welding implement such as a welding head comprising a welding means. Applicant respectfully submits that Tallmann does not disclose means for illumination that is separate and distinct from the welding implement. Indeed, the invention disclosed by

Tallman relates to an optical system for use in various machines such as electron or laser beam welding and drilling machines. (See Abstract). Tallman discloses that the illumination means is the implement “involving illumination or irradiation with a particle beam such as a photon or electron or laser beam, for drilling, welding and other similar operation.” (See Col. 5, lines 49-53) (Emphasis added). Thus, it is seen that the illumination means disclosed in Tallman is the actual implement that is used for drilling and/or welding and is not for reproducing the work area. In sum, the illumination means disclosed by Tallman is functionally equivalent to the Applicants welding head. Consequently, Tallman does not disclose an illumination means that is separate and distinct from the implement for working the material as required by claim 17.

Also, contrary to the Examiner’s assertion, Tallman does not disclose a bandpass filter, but rather, discloses a polarizing filter. A polarizing filter is different from a bandpass filter. A polarizing filter is configured for filtering waves based on their rotational orientation and allows light of all frequencies to pass therethrough so long as the waves are properly oriented. A bandpass filter, on the other hand, filters light based on frequency and is not concerned with rotational orientation. A bandpass filter only allows light of certain frequencies to pass and does not allow light of all frequencies to pass.

In view of the above, then, it is seen that Tallman does not disclose each and every element of claim 17 to maintain a rejection under 35 USC §102.

With regard to independent claim 37, Applicant respectfully submits that claim 37 recites a device for monitoring in connection with welding wherein the means for illuminating is separate and distinct from the implement that is used to work the material. As previously noted, the illumination means disclosed by Tallman is provided for drilling or welding and Tallman does not disclose a separate illumination means for reproducing the welding area. Furthermore, claim 37 also recites that the filter comprises a bandpass filter. As noted above with regard to claim 17, a polarizing filter is different from a bandpass filter.

Thus, it is seen that Tallman does not disclose each and very element of claim 37, or those claims depending therefrom, as arranged to maintain an anticipation rejection.

For the reasons set forth above, withdrawal of the rejection of claims 17 and 37, and those claims depending therefrom, is respectfully requested.

2. The Examiner also rejected claims 17-21, 35-41, and 51-54 as being anticipated by Katsuta et al. (US 2002/0154811). More specifically, the Examiner asserted that Katsuta discloses an arrangement and computer program for monitoring welding comprising a camera with a diaphragm and computer for reproducing the welding area, UV illuminating means and a band filter. Weld size and shape can be measured. Welding processes are controlled and corrected, including position and geometry of the melt. Applicant respectfully traverses the rejection.

At the outset, it should be appreciated that Katsuta discloses a system and method detecting flaws on workpieces post welding. In this regard, Katsuta discloses utilizing a digital camera for non-destructive inspection based on a liquid fluorescent penetrant or magnetic particle inspection that is applied to the surface of a workpiece after it has been welded. (See Abstract). Katsuta in no way discloses an arrangement or method for monitoring welding as it occurs, for monitoring the welding area during welding operations, or for controlling a welding parameter or welding implement at the time of welding. Indeed, paragraphs [0016] and [0045] cited by the Examiner as teaching monitoring welding, actually disclose inspecting objects post welding, e.g., “[a]n inspection object 11 is a metal piping part for inspection of welded portion where beads exist in the horizontal direction of the figure.” Also, in connection with the embodiment disclosed by Katsuta wherein a workpiece to be inspected is magnetized with a liquid coating including fluorescent particles as described in paragraph [0119], while irradiating with an ultraviolet ray and detection of fluorescence with a filter is, arguably, discussed, such methods are performed post welding for purposes of flaw detection and cannot be performed during welding operations. Also, contrary to the Examiner’s assertions, FIG. 12 and paragraph [0016] simply do not disclose controlling welding parameters and/or processes, but rather, paragraph [0016] discusses post welding inspection and categorization and FIG. 12 discloses post welding flaw detection and data storage.

In sum, there is simply no disclosure, whatsoever, in Katsuta, of an arrangement or method for monitoring welding as it occurs, for monitoring the welding area during welding operations, or for controlling welding operations, a welding parameter or welding implement at the time of welding.

Consequently, because Katsuta fails to disclose one or more element of each of claims 17, 20, 35, 36 and 37, as arranged, Katsuta fails to anticipate such claims and those claims depending therefrom.

Accordingly, withdrawal of the rejection is respectfully requested.

Serial No.: 10/711,786
Confirmation No.: 5785
Applicant: HENRIKSON, Per
Atty. Ref.: 7589.204.PCUS00

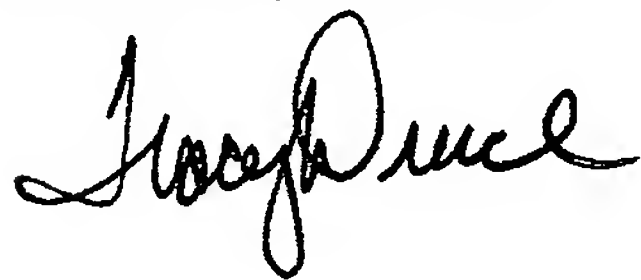
Conclusion

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

The undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437, Order No. 7589.204.PCUS00.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner should directly contact the undersigned by phone to further the discussion.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Tracy Druce", written in a cursive style.

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